

Meeting Notes: Community Advisory Group - Aerojet Superfund Issues, July 26, 2006

1. Attendees

Alex MacDonald (Regional Water Quality Control Board), Janis Heple, Jean Young (SCWA), Larry Ladd, Angel Ball, Greg Ball, Jenny Byars, Rick Bettis, Michael Girard (Aerojet), Alex Peterson (Kennedy Jenks Consultants), Steve Nugent (Carmichael Water District), Jackie Lane (EPA), Tom Gray (FOWD), Charles Berrey (EPA), Tricia Carter (Recorder, CH2M HILL),

2. Approval of Meeting Minutes

The meeting minutes were accepted as final. No comments were provided.

3. Update on major milestones and deliverables produced since the May meeting for OU3 and other environmental related efforts at Aerojet, Charles Berrey, EPA

Charles updated the CAG on recent OU-3 activities/deliverables. Since the last meeting, the following has been completed:

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Status Aerojet Operable Unit 3 Since 5/24/06 Meeting

- 06/07/06 Aerojet submitted a Groundwater monitoring Plan for the full suite, as well as, plume contour maps for N-Nitrosodimethylamine, Trichloroethylene for Layers A through F (See attached composite map). The Agencies' response is pending.
- 06/22/06 The Agencies granted Aerojet a further design extension for Area 3 from 5/09/06 to 11/06/06. The Agencies reiterated the requirement for a dual design contained in the Agencies letter of 4/11/06. A conference call was held 7/20/06 in which Aerojet proposes to provide a schematic of the dedicated extraction well alternative vs. the actual detailed design. The Agencies' response is pending
- 07/06/06 The EPA provided Mr. Carlton Kropp, a resident of Area 1 a letter, stating that an untreated pipeline leak or rupture of extracted groundwater with perchlorate is not expected to pose a threat to human health unless the water was ingested.
- 07/07/06 The Agencies provided comments on Aerojet's 6/02/06 Technical Memorandum Interim GET E/F Effectiveness Evaluation. A further conference call discussion was conducted with Aerojet 7/20/06 on the needed components of and effectiveness evaluation. Aerojet also suggested on the conference call possible use of County contaminated well #17 for consideration as the Layer C/D extraction well to be added to GET E/F. A response to Aerojet from the Agencies is pending.

Other Aerojet Environmental Efforts Since 5/24/06 Meeting

- 05/26/06 The Agencies commented on Aerojet's "Updated Plume Maps & Recommended Location for Extraction Wells Material Modification Zone 1, 3, and 4 dated 5/5/06 and Response to Agency Comments on Material Modification Project Schedules for Zones 1, 3 and 4 dated 4/24/06." Options were discussed at the 6/28/06 technical meeting. The Agencies' letter of 7/13/06 stipulated agreement to 1) install and aquifer test extraction wells Z3-C1 and Z3-D1; 2) use the data to locate extraction wells Z3-C3 and D3; and 3) the need to install a multi-completion Layer C/D monitoring well to the south ASAP in Zone 3 (See attached Figures 1 & 2)
- 06/07/06 Agencies approved with comments the modified Johnson and Ettinger Model Calibration Work Plan. On 6/27/06 Aerojet responded agreeing to the Agencies request for additional probes and the Agencies approved the modified work plan on 7/7/06.
- 06/07/06 Aerojet submitted a Groundwater Monitoring Plan for the full site, as well as, plume contour maps for N-Nitrosodimethylamine, Trichloroethylene for Layers A through F (See attached

composite map). The Agencies' response is pending.

06/12/06	Agencies provides minor comments on Aerojet's 4/27/06 Line 03, Site 18F Treatability Study.
06/12/06	Agencies provide minor comments on Aerojet's 5/04/06 Line 04, Site 30F Treatability Study.
06/12/06	Agencies provide minor comments on Aerojet's 5/20/06 HogOut Perchlorate Batch Reactor Treatment Study.
07/10/06	Agencies provides comments on Aerojet's 6/01/06 In Situ Groundwater remediation Work Plan for Area 40.

Charles also referred to several figures during the update. One map was a composite map of TCE, NDMA, and perchlorate plumes in groundwater. The second map showed the area of additional monitoring wells in Zone 3 (PGOU). The third map showed proposed extraction well locations in Zone 3 (PGOU). Several observations/comments were noted:

- Perchlorate is migrating into Rancho Cordova.
- TCE does not extend as far out to the west because a system is in place to contain the groundwater plume. At one time, treated groundwater from the GETs was injected into the aquifer, putting perchlorate back into the ground. These operations have since been terminated.
- Groundwater flows in four different directions in the area.
- OU-5, OU-3, and ARGET address contamination in the area. Aerojet is divided into four zones.
- Containment will be achieved to the southwest of OU-3 with the addition of extraction wells. Currently the treatment plant and three extraction wells are in operation in the southwest. Boundary control will soon be achieved at the Aerojet site.
- The Chettenham well will require wellhead treatment after testing resulted in the detection of perchlorate. Extracted groundwater will not be piped to the Area 1 treatment plant; this action (wellhead treatment) may become a part of the remedy.
- Efforts are being made to contain contamination in all layers within Area 1. Data results show that Layer D contamination does not extend as far as Layer C. An evaluation was conducted which shows the benefit of a multi-completion well in Layers C and D to control contamination closer to Aerojet in layer D. The reason for the layer C portion of the multi-completion well is to prevent contamination in layer C from being pulled into layer D."
- Correspondence has occurred with Teichert to install monitor and extraction wells in Zone 3 to better control the plume.

Larry Ladd asked where the highest hit of NDMA has been detected. NDMA was originally identified on the east side of the site (Titan), but now it has been detected in the west. Alex noted that the source area has not been identified and that the maximum NDMA concentration in the east is 80 ppb. The highest concentration detected is approximately 100 ppt in the northwest. Larry asked if Aerozene 50 (hydrazine) and formaldehyde hydrazone have been sampled for. Alex noted that he did not believe that a test method existed for formaldehyde hydrazone and that Aerojet has sampled for hydrazine.

Rick Bettis asked if recharging (springs) contributes to the migration of the plume. Alex responded that recharge does not have a significant impact on plume migration. Plume migration is approximately 500 feet per year.

4. Update on Cleanup Activities in Operable Unit-3 and Beyond, Alex MacDonald, RWQCB

Alex provided several figures to the group depicting the Boundary OU and proposed extraction wells (represented by circles and diamonds) and monitoring wells (represented by stars) and a figure with

Groundwater Extraction and Treatment (GET) locations. Aerojet has nearly completed remedial investigations within the Boundary OU. The extent of contamination is almost fully defined. The major source areas will be identified as part of this effort. The main contaminant of concern that has been identified is TCE. The RI/FS will be prepared next year. Larry Ladd requested a list of contaminants (volatiles) that have been detected within the Boundary OU.

5. Carmichael Water District Update, Steve Nugent

Steve Nugent addressed the efforts that are occurring within the Carmichael Water District. Steve summarized that two wells have been impacted in the northern part of the district with concentrations of 4 ppb in one well and 2 ppb in the other. In addition, nitrates have been rising in the water (from 2-3 to 35). A regional effort is underway to use the water beneficially.

There was a signed agreement between Aerojet and the Carmichael Water District to install a treatment system (GET L1) within a year. The 50% design was submitted and is in review. Construction will occur by August/September, and operation will begin in May 2007. Negotiations are in progress with Sacramento County to move GET L closer to the American River. There is currently an issue with the location of the GET within a flood zone. FEMA has raised the flood corridor. Another issue exists regarding extracted groundwater from the basin not being used for beneficial reuse. Options could be considered for using the extracted groundwater for irrigation. Charles noted that the water will be used within the community for the water extracted by GET L1. GET L and L1 will discharge to the American River (a NPDES permit is in place); once in the river, the City of Sacramento will have senior water rights. Both facilities will address three contaminants and will have the capabilities to treat TCE, NDMA, and perchlorate. If discharge to the American River is not feasible, a pipeline will be routed to GET K.

Mike Girard noted that the Department of Health Services has an issue with giving treated water to the community in northern California. The requirements for drinking water are the same statewide; however, DHS has latitude to determine the best available source.

6. Generic Presentation for September Meeting

A general overview of the cleanup program and the areas address (zones, OUs, areas) will be presented at the next meeting. An ad will be placed in the newspaper for this meeting. Other potential forms of advertisement include the Rancho Cordova quarterly newsletter and leaflets. Larry Ladd took the action to distribute the leaflets. Tom Gray from the FOWD stated that there is a need to expand the focus of his district beyond the area south of the river as part of his public outreach plan and will notify the community of the next CAG meeting. The next FOWD Board meeting occurs on the second Monday in August. Tom and Steve will also inform the districts customers about the meeting.

7. Next Meeting

Next meeting: Wednesday, September 27, 2006, City Hall, 2729 Prospect Park Drive, Rancho Cordova, 7 p.m. to 9 p.m.